



A Scale for Measuring Reliability Health in Organisations

In a minute you'll know if your organisation has what it takes to achieve world class reliability performance. Use this audit tool to gauge your organisation's capability to deliver outstanding reliability. Use its scale to plan how to improve it.

I use to read maintenance and reliability books regularly to find answers to maintenance and reliability problems. Ultimately, after reading dozens of maintenance and reliability books, I realised that though the books had important and necessary content, they were insufficient for creating maintenance and reliability excellence—they did not have the right answers that produced outstanding reliability that lasted. There are plenty books on randomly successful maintenance and reliability experiences, but none with a sure method that worked for anyone that used it. I took the advice of the late quality guru W. Edwards Deming, 'A system cannot improve itself.' New ideas come from outside to inside. Maintenance cannot improve maintenance without new ideas. Your equipment reliability will never improve until new, better solutions are used. So I started reading from disciplines not involved with maintenance and reliability. I soon struck gold.

Books on Lean and Quality Systems made a huge difference to my knowledge and thinking. They were full of great answers to maintenance and reliability process problems. But they too had no solution that guaranteed success. I changed to reading books from disciplines not involved with Lean or Quality. Again I hit gold.

Psychology books brought joyful illumination and understanding. On page 227 of Nobel Prize winning psychologist Daniel Kahneman's book, 'Thinking, fast and slow'¹ he described how the Apgar test for assessing newborn baby health was invented. Up until breakfast on a fateful day in 1953, babies occasionally suffered brain damage from misinterpretation of their physical health indicators. At that breakfast, Kahneman wrote: Virginia Apgar sat with a medical resident who asked her how she would make assessment of a newborn. "That's easy", she replied. "You would do it like this." She jotted down five variables (heart rate, respiration, reflex, muscle tone, and colour) and three scores (0, 1, or 2, depending on the robustness of each sign). Today that test has saved hundreds of thousands of infants and their families from a lifetime of distress. The Apgar test made such a positive difference because it took opinion out of a newborn's health assessment. It removed practitioner judgement by providing measurable guidance on what was important to do in the first minutes of a baby's life. On page 232 of his book Kahneman described how to develop a rating scale like an Apgar test. The Apgar test story got me thinking whether something similar could be done for assessing reliability health in organisations and triggered the Reliability Health Scale in Table 1 on the next page.

There are five variables, each with a scale to grade them. The five measures listed are indicators of an organisation's ability to create world class reliability performance. You might disagree with my scale definitions, they are challenging and unforgiving, but the assessment will still give you correct guidance. You want to be at eight or better. Below five is life threatening.

All the best to you,

Mike Sondalini
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¹ Kahneman, Daniel, *Thinking, fast and slow*, Allen Lane publishers, 2011

Organizational Lifetime Reliability Health Scale			
Criteria	Description	Grade	
Processes	Procedures and methods of the one approved right way to produce all required outcomes are available.	No/few documented processes, with reliance on use of human mind and memory.	0
		Complete process flow diagrams with procedures for all processes, plus work instructions for critical factors.	1
		Fully flowcharted, instructed in all procedural detail, and error proofed to prevent critical step failure.	2
Quality Standards	Clear criteria defining top class, acceptable and unacceptable results at critical points in all processes.	No/few specified work quality outcomes, with reliance on human opinion for decision making.	0
		Measurable quality standards set and monitored for all critical outcomes.	1
		Tri-quality standards set, monitored and trended for all critical process step outcomes.	2
Competence	Personnel are capable, with technical and emotional skills to surely achieve the quality standards.	Use qualified and trained personnel in key positions.	0
		Use competent, proven capable-in-the-role persons in key positions.	1
		Use people competent, proven capable-in-the-role, and accomplished in the processes, in all positions.	2
Discipline	Best available procedures are correctly followed by everyone throughout the organisation.	Most work is done as considered best to do by the person doing it.	0
		All work is done to defined, documented instructions.	1
		All work is done precisely to meet specific quality outcomes.	2
Continuous Improvement	Unendingly looking for, testing and implementing better solutions.	No specified, or irregularly applied, improvement process in use.	0
		Regular measuring and reporting of key process indicators and failures to identify opportunities, and then doing improvements.	1
		Continuous trending of process distributions and analysis of cause-effect to proactively make changes that get best results.	2
TOTAL			

Table 1 A Scale to Measure Reliability Health